

Complete Syntax Itemization of the BDT Language

Section g4	Command Description	Operation	Arg1	Arg2	Arg3	Ar
Number	Name	Code				

2 BDTAdmin 201 Variable Variable
Example:

TAdmin(A , B) BD

aning: Me

nstructs a new BDTAdmin object with the specified name A and argument B. Co

BDTArg 202 Variable
Example:

TArg(A) BD

aning: Me

nstructs a new BDTArg object with the specified binary data A. Co

BDTBinutil 203
Example:

TBinutil() BD

aning: Me

nstruct a new BDTBinutil object Co

BDTConstants 204
ample: Ex

TConstants() BD

aning: Me

nstruct a new BDTConstants object Co

Complete table for CDROM 111201

BDTDebug	205		Ex
ample:			
TDebug()			BD
aning:			Me
nstruct a new BDTDebug object			Co
BDTDump	206		Ex
ample:			
TDump()			BD
aning:			Me
nstruct a new BDTDump object			Co
BDTException	207	Variable	
Example:			
TException(A)			BD
aning:			Me
nstruct a new BDTException object with argument A			Co
BDTGeometry	208	Variable	Variable
Example:			
TGeometry(A, B)			BD
aning:			Me
nstructs a new BDTGeometry object with binary-coded A and B			Co
BDTMaterial	209	Variable	Variable
Example:			
TMaterial(A, B)			BD
aning:			Me
			Co

Complete table for CDROM 111201

nstructs a new BDTMaterial object with binary-coded A and B

BDTMedia 210 Variable Variable
Example:

BD

TMedia(A, B)

Me

aning:

Co

nstructs a new BDTMedia object with binary-coded A and B

BDTNode 211 Variable Variable
Example:

BD

TNode(A, B)

Me

aning:

Co

nstructs a new BDTNode object with binary-coded A and B

BDTObject 212 Variable Variable
Example:

BD

TObject(A, B)

Me

aning:

Co

nstructs a new BDTObject object with binary-coded A and B

BDTObjectEngine 213
Example:

Ex

TObjectEngine()

BD

aning:

Me

nstructs a new BDTObjectEngine object

BDTReader 214 Variable Variable
Example:

BD

TReader(A, B)

Me

Complete table for CDROM 111201

aning:

Co

nstructs a new BDTReader object with binary-coded A and B

BDTRender 214

Ex

ample:

BD

TRender()

Me

aning:

Co

nstructs a new BDTReader object

BDTSceneLoader 215 Variable Variable

Example:

BD

TSceneLoader

Me

aning:

Co

nstructs a new BDTSceneLoader object with binary-coded A and B

BDTSound 216 Variable Variable

Example:

BD

TSound(A, B)

Me

aning:

Co

nstructs a new BDTSound object with binary-coded A and B

BDTTexture 217 Variable Variable

Example:

BD

TTexture(A, B)

Me

aning:

Co

nstructs a new BDTTexture object with binary-coded A and B

BDTType 218

Ex

ample:

BD

Complete table for CDROM 111201

TTType()		Me
aning:		Co
nstructs a new BDTType object		
BDTVREngine	219	Ex
ample:		BD
TVREngine()		Me
aning:		Co
nstructs a new BDTVREngine object		
BDTVRMLConverter	210	Ex
Example:		BD
TVRMLConverter()		Me
aning:		Co
nstructs a new BDTVRMLConverter object		
BDTWizard	211	Ex
ample:		BD
TWizard()		Me
aning:		Co
nstructs a new BDTWizard object		
BDTWriter	212	Ex
Example:		BD
TWriter()		Me
aning:		Co
nstructs a new BDTWriter object		

Complete table for CDROM 111201

Convert	213	Variable	
Example:			
nvert (A)			Co
aning:			Me
nvert VRML file A to BDT file			Co
ccw	214		Ex
ample:			cc
w()			Me
aning:			Ge
ts the handedness of this mesh			
debug	215	Variable	
Example:			de
bug (A)			Me
aning:			Pr
ints a debug string A if level is greater than the current class d			
ebug level			
flush	216		Ex
ample:			fl
ush()			Me
aning:			Fl
ushes the OutputStream and clears the BDTObject buffer			
getBDTObjects	217		Ex
ample:			ge
tBDTObjects()			Me

Complete table for CDROM 111201

aning:

Re

ads an array of BDT objects

Ex

getSceneRoot 218

ample:

ge

tSceneRoot ()

Me

aning:

Ge

t the ID of the scenegraph root transform

imagePixels 219 Variable

Example:

im

agePixels(A, B)

Me

aning:

Co

nvert an image to a matrix(A, B) of pixel values and store the im
age dimensions

imagePixels 220 Variable

Example:

im

agePixels(A, B)

Me

aning:

Co

nvert an image to a matrix(A, B) of pixel values and store the im
age dimensions

invertMatrix 221 Variable

Example:

in

vertMatrix(A, B)

Me

aing:

In

vert a 4x4 homogeneous transformation matrix(A, B)

Complete table for CDROM 111201

isAvailable 222

Example:

is

Available()

Me

aning:

Ch

Check if more input from the stream is available

map 223

Ex

ample:

ma

p()

Me

aning:

Ge

Get the texture coordinates for this mesh

loadFile 224 Variable

Example:

lo

adFile(A)

Me

aning:

Re

Read a binary file, A, over the network into a byte array

loadScene 225 Variable

Example:

lo

adScene(BDTObject())

Me

aning:

Co

Construct a scenegraph in the specified rendering engine

mapI 226

Ex

ample:

ma

pI()

Me

Complete table for CDROM 111201

aning:

Ge

t the texture coordinate indices of this mesh

material 227

Example:

ma

terial()

Me

aning:

Ge

t the material for this mesh

name 228

ample:

Ex

me()

na

aning:

Me

t the name of this object

normalizeVector 229

Constant

Constant

Example:

no

rmalizeVector(A, B)

Me

aning:

No

rmalize a 3D vector(A, B)

normals

230

Example:

n

ormals()

Me

aning:

Ge

ts the normals of this mesh

normalsI

231

Example:

n

Complete table for CDROM 111201

ormalsI()			
anning:			Me
ts the vertex indices of this mesh			Ge
ample: parse	232		Ex
rse()			pa
anning:			Me
rses an array of binary arguments to object-specific fields			Pa
ample: pick	233		Ex
ck(A, B)			pi
anning:			Me
rses an array of binary arguments to object-specific fields			Pa
ample: renderFrame	234		Ex
nderFrame()			re
anning:			Me
TRender current scene to framebuffer			BD
ample: scale	235		Ex
ale()			sc
anning:			Me
ts the scale of this node			Ge

scaleOrientation 236

Example:

scaleOrientation() sc

aining: Me

ts the scale orientation of this node Ge

setAntialias 237

Example:

setAntialias() se

aining: Me

able antialiasing En

setBackgroundImage 238 Variable

Example:

setBackgroundImage (A) se

aining: Me

ts the background image A for the scene Se

setCameraLookAt 239 Constant

nstant Example: Co

setCameraLookAt(A, B, C) se

aining: Me

ts the view-direction vector(A, B, C) of the scene camera Se

setCameraPosition 240 Constant

Constant Example: Constant

setCameraPosition(A, B, C) se

aining: Me

Se

Complete table for CDROM 111201

t the position(A, B, C) of the scene camera

setCameraUp 241 Constant Constant Co
nstant Example:

tCameraUp(A, B, C) se

aning: Me

t the view-up vector(A, B, C) of the scene camera Se

setFocalDistance 242 Consatnt

Example:

tFocalDistance (A) se

aning: Me

t the focal distance A for the renderer Se

setFogActive 243 Ex
ample:

tFogActive() se

aning: Me

rns fog effects on Tu

setMeshMaterial 244 Ex
ample:

tMeshMaterial() se

aning: Me

t the material for each face of a mesh Se

setMeshTexture 245 Ex
ample:

tMeshTexture() se

aning:			Me
t the texture for a mesh			Se
setMeshVertexCoord	246	Constant	Constant
Constant	Example:		
tMeshVertexCoord(A, B, C)			se
aning:			Me
t the position(A, B, C) of the mesh vertice			Se
setRenderTarget	247	Variable	
Example:			
tRenderTarget(A)			se
aning:			Me
t the target A to which this render's graphics will be drawn			Se
setTransformMatrix	248	Constant	Constant
Constant	Example:		
tTransformMatrix(A, B, C)			se
aning:			Me
t the transformation matrix(A, B, C) associated with a particular transform			Se
sound	249		Ex
ample:			
und()			so
aning:			Me
t sound data			ge
texture	250		Ex

ample:				
xture()			te	
aning:			Me	
t texture image data			ge	
transformVector 251	Constant	Constant	Co	
nstant Example:				
ansformVector(A, B, C)			tr	
aning:			Me	
ply a homogeneous transformation(A, B, C) to a 3D vector			Ap	
translation 252				
Example:				
anslation()			tr	
aning:			Me	
ts the translation of this node			Ge	
transparency 253			Ex	
ample:				
ansparency()			tr	
aning:			Me	
t the transparency of this material			Ge	
type 254			Ex	
ample:				
pe()			ty	
aning:			Me	
t the type of this object			Ge	

Complete table for CDROM 111201

vertices 255

Example:

rtices() ve

aning: Me

ts the vertices of this mesh Ge

verticesI 256

Example:

rticesI() ve

aning: Me

ts the vertex indices of this mesh Ge

zeroMatrix 257

Example:

roMatrix() ze

aning: Me

ll a matrix with zeros Fi

4 AddChild 404

Example:

dChild() Ad

aning: Me

d a child transform or mesh to a transform Ad

AddMatrix 405 Constant Constant

Constant Example:

dMatrix(A, B, C) Ad

aning: Me

Ad

d 2 Matrices with dimensions of A, B, and C

argToBoolean 406 Constant

Example:

ar

gToBoolean(A)

Me

aning:

Co

nverts binary argument A to a boolean data of values

argToFloatArray 407 Constant Constant

Example:

ar

gToFloatArray(A, B)

Me

aning:

Co

nverts dimensions of A and B to an array fo floating-point values

argToFloatMatrix 408 Constant Constant

Example:

ar

gToFloatMatrix(A, B)

Me

aning:

Co

nverts dimensions of A and B to a matrix fo floating-point values

beginFrame 409

Example:

be

ginFrame()

Me

aning:

In

itialize the framebuffer and other render resoruces for drawing th
e next frame to the screen.

booleanToByteArray 410 Variable

Example:

Complete table for CDROM 111201

booleanToByteArray (A)

Me

aning:

Co

nvert a boolean A to a byte array

byteArrayToFloat 411 Variable
Example:

by

teArrayToFloat (A)

Me

aning:

Co

nvert a byte array A into the corresponding floating-point number

children 412

ch

Example:

Me

ildren()

Ge

aning:

Ex

t the children of this mesh

command 413

co

ample:

Me

mmand()

Re

aning:

turns the command associated with this BDTAdmin object

concatenateMatrix 414 Variable Variable
Example:

co

ncatenateMatrix(A, B)

Me

aning:

Co

mpose A and B matrices

copyMatrix 415 Variable Variable

Complete table for CDROM 111201

5 createAmbientLight 500

Example:

cr

createAmbientLight()

Me

aning:

Cr

reate a new default ambient light with intensity 1.0f

createDirectionalLight 501

Example:

cr

createDirectionalLight()

Me

aning:

Cr

reate a new default directional light pointing down the negative y axis

createMaterial 502

Ex

ample:

cr

createMaterial()

Me

aning:

Cr

reate a new material with Gouraud shading, grey diffuse color and zero transparency

createMesh 503

Example:

cr

createMesh()

Me

aning:

Cr

reate a new empty mesh

createPointLight 504

Example:

cr

createPointLight()

Complete table for CDROM 111201

aning:			Me
reate a new omnidirectional point light source positioned at the origin			Cr
ample:	createTexture 505		Ex
eateTexture()			cr
aning:			Me
reate a new empty texture			Cr
Example:	createTransform() 506		
eateTransform()			cr
aning:			Me
reate a new transform initialized to the unit transform			Cr
ample:	destroy 507		Ex
stroy()			de
aning:			Me
lease unused render resources			Re
ample:	diffuseColor 508		Ex
ffuseColor()			di
aning:			Me
t the diffuse color of this material			Ge
distance	509	Variable	Variable

Complete table for CDROM 111201

Example:

stance(A, B) di

aning: Me

lculates the distance between two points of A and B in 3D space Ca

endFrame 510

Example: en

dFrame() en

aning: Me

aw framebuffer to the screen using double-buffered graphics Dr

generateNormals 511

ample: Ex

nerateNormals() ge

aning: Me

nerate surface and vertex normals for a triangle mesh Ge

rotXMatrix 512 Constant Constant

Example:

txMatrix(A, B) ro

aning: Me

eate a matrix(A, B) representing a 3D rotation about the x axis Cr

rotYMatrix 513 Constant Constant

Example:

tyMatrix(A, B) ro

aning: Me

eate a matrix(A, B) representing a 3D rotation about the y axis Cr

Complete table for CDROM 111201

rotzMatrix 514 Constant Constant

Example:

tzMatrix(A, B)

ro

aning:

Me

ate a matrix(A, B) representing a 3D rotation about the z axis

Cr